Amendments to the Drawings:

The attached sheets of drawings include Replacement Sheets for Figures 6 and 8. The Replacement Sheets correct the handwritten approved amendments forwarded with the January 12, 2005 Amendment.

Attachment: Replacement Sheets for Figures 6 and 8

REMARKS/ARGUMENTS

Claims 1-21 and 23-25 are pending in this application. By this Amendment, claims 1, 5, 8, 16-17, 21 and 23-25 are amended. Applicant respectfully submits that no new matter is added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance (for the reasons discussed herein); (2) do not raise any new issues requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter); and/or (3) place the application in better form for appeal (if necessary). Entry is thus requested.

Applicant sincerely acknowledges the Office Action's indication that claims 9 and 23-25 define patentable subject matter. However, for at least the reasons set forth below, Applicant respectfully submits all pending claims are in condition for allowance.

A. The Office Action rejects claims 23-25 under 35 U.S.C. §112, first paragraph. Applicant respectfully submits the above amendments obviate the grounds for the rejection. Withdrawal of the rejection to claims 23-25 is respectfully requested.

B. The Office Action objects to the drawings. Applicant respectfully submits that formal drawings for amended and approved Figures 6 and 8 are included in the

Replacement Sheets attached to this Amendment. Withdrawal of the objection to the drawings is respectfully requested.

C. The Office Action rejects claims 1-3 under 35 U.S.C. §103(a) over U.S. Patent No. 6,694,442 to Yeh and U.S. Patent No. 5,719,510 to Weidner. The Office Action further rejects claim 4 under 35 U.S.C. § 103(a) over Yeh, Wiedner and U.S. Patent No. 6,079,022 to Young. The Office Action rejects claims 5-7 and 17-19 under 35 U.S.C. § 103(a) over Yeh and U.S. Patent No. 6,609,211 to Atkinson. The Office Action rejects claims 8, 11, 16 and 20-22 under 35 U.S.C. § 103(a) over Yeh, Weidner and Atkinson. The Office Action rejects claim 10 under 35 U.S.C. § 103(a) over Yeh, Weidner, Atkinson and Young. Finally, the Office Action rejects claims 12-15 under 35 U.S.C. § 103(a) over Yeh, Weidner, Atkinson and Parrish. Since the references, individually or in combination, fail to disclose or suggest all the features in the claims, the rejections are respectfully traversed.

1. The Office Action asserts that Yeh discloses with respect to the independent claims such as independent claim 1, setting a throttle rate of a clock to a predetermined initial value, the clock being used for a data bus connected between a CPU and a controlling device, detecting a user's pressing of a button if a power source is battery and adjusting the set throttle rate according to the user's button press. Further, the Office Action asserts Weidner discloses detecting a remaining battery capacity, and adjusting the set throttle rate

according to the detected remaining battery capacity. See page 4, Item 5 of the Office Action.

Applicant respectfully submits that generally Yeh is directed toward event controllers 70, 270 that place system controller 30 and CPU 20 into an idle/suspended state in which a clock generator can change the host clock signal 34, 234 to a new frequency, and then the event controllers 70, 270 activate the CPU and system controller from the idle/suspended state. Beneficially, Yeh reduces the likelihood that system components will crash when the frequency of their timing signals is changed. See column 6, line 40-52 of Yeh. A system controller 230 of Yeh does not change the frequency of the host clock signal 234 when providing the same for a front bus 232, a memory bus 235 and a video bus 236, but merely passes through the received host clock signal 234 unchanged.

Thus, Applicant respectfully submits that Yeh does not teach or suggest adjusting the set throttle rate using the controlling device, for example, of a host bus such as a bus between a CPU and a controlling device, according to the detected remaining battery capacity and combinations thereof as recited in claim 1.

The Final Office Action asserts that the host clock signal (i.e., host clock signal 234) may be altered citing column 6, lines 19-26 of Yeh and therefore the host clock signal is modifiable, not just passed through the system controller 230. See Item 12, lines 8-9, on page 19 of the Final Office Action. Applicant respectfully submits that host clock signal 234

is modifiable by the clock generator 240, but once set, the host clock signal 234 is provided to the system controller 230 and passed through unchanged to the front side bus 232 that is between the CPU 220 and the system controller 230. The host clock signal is also provided unchanged to the memory bus 235 and the video bus 236. See column 6, lines 10-26 of Yeh. Accordingly, Applicant respectfully submits that Yeh does not teach or suggest adjusting the set throttle rate using the controlling device according to the detected remaining battery capacity and combinations thereof as recited in claim 1.

2. Applicant respectfully submits that Weidner does not teach or suggest adjusting the set throttle rate using the controlling device, for example, of a host bus such as a bus between a CPU and a controlling device, according to the detected remaining battery capacity or based on CPU load as variously recited in claims 1, 5, 8, 16, 17 and 21. In contrast, Applicant respectfully submits that Weidner discloses a clock generator where a software controller can select a clock output signal frequency based on amount of power. Thus, Weidner's clock generator could replace the clock generator 240 in Yeh but does not teach or suggest, for example, a throttle rate of a clock for a bus such as between a CPU and a controller.

The Final Office Action admits that Weidner does not disclose the output clock signal (i.e., f_{out} in Figure 1 of Weidner) is a clock signal used for a bus. See Item 13 on page 20 of the Final Office Action. Applicant agrees. Weidner discloses a Software Configurable

Digital Clock Generator. See the title in Weidner. Thus, Applicant respectfully submits that the combination of Yeh and Weidner would replace the clock generator 240 of Yeh with the software configurable digital clock generator of Weidner. Accordingly, the modified clock generator would generate the output clock f_{out} that can have a lower clock rate based on an amount of power available. Similar to Yeh, Applicant respectfully submits that a generated clock signal in Weidner can be provided to a computer system (e.g., CPU 220 or system controller 230 in Yeh).

In contrast, one embodiment of the present invention adjusts a set throttle rate of a host bus (e.g., between a CPU and a controlling device) using the controlling device according to a detected remaining battery capacity or based on a CPU load. Thus, Applicant respectfully submits that Weidner does not teach or suggest adjusting the set throttle rate, for example, of a host bus such as a bus between a CPU and a controlling device, according to the detected remaining battery capacity or based on CPU load as variously recited in claims 1, 5, 8, 16, 17 and 21.

Summary

In embodiments according to the invention, a host bus (e.g., between CPU and controller) clock is adjusted by using a throttling technology based on a remaining battery or CPU load (e.g., usage). However, Applicant respectfully submits that Yeh and Weidner do not disclose or teach adjusting of a throttle rate of a bus (e.g., host bus between a CPU and

controller clock) clock based on a remaining battery or CPU load and combinations thereof as recited.

3. Applicant respectfully submits that Atkinson discloses a utilization-based power management of a clock device. Atkinson appears to disclose adjusting a system clock frequency based on CPU activity such as memory page misses, IO write cycles or other events. See the Abstract and column 5, lines 1-22 of Atkinson. Thus, Atkinson does not appear to disclose adjusting a system clock frequency based on CPU load.

The Final Office Action asserts a CPU's load can be measured by an amount of cache read misses. See Item 14, page 21 of the Office Action. Applicant respectfully submits that cache hits/misses may be correlated to or indicative of a CPU load. However, Applicant respectfully submits that Atkinson does not teach or suggest features of detecting a present load of the CPU and clearly does not teach or suggest features of adjusting the set throttle rate in reverse proportion to the present CPU load and combinations thereof as variously recited in claims 5 and 21. Further, Applicant respectfully submits that Atkinson does not teach or suggest features of adjusting the set throttle rate using the controlling device according to the detected condition, wherein the detected condition is within a range of values for the prescribed criteria and combinations thereof as recited in claim 17.

4. Applicant respectfully submits that Young discloses clock control circuit 21, which can be replaced by dynamic clock controller as shown in Figure 3. Thus, Young

discloses a variable speed clock supply component 41 supplies clock signals to the components (e.g. bus components 44A...44N) coupled to a bus 45 (e.g. such as a PCI bus) according to detected activity on the bus 45. See Figures 1, 3 and 4 and column 3, lines 37-50. Young further discloses an idle detector/timer component 43 that detects the bus 45 is idle (e.g. no activity on the bus). Thus, Young appears to disclose clock controller 21 and variable speed clock supply 41 respectively can control a clock speed of a clock signal provided to devices coupled to a bus such as the PCI bus 7 and the bus 45.

Thus, Applicant respectfully submits that Weidner, Young, Atkinson and Parrish do not teach or suggest at least features of a bus clock controlling method in a computer and combinations thereof or a computer and combinations thereof as variously recited in the independent claims and lacking from Yeh. Thus, Applicant respectfully submits that Yeh, Weidner, Young, Atkinson and Parrish, individually or in combination, would not result in at least features of a bus clock controlling method in a computer including setting the throttle rate of a clock, the clock being used for data bus connected between a CPU and the controlling device, detecting a remaining battery capacity and adjusting the set throttle rate using the controlling device according to the detected remaining battery capacity and combinations thereof as recited in claim 1.

For at least the reasons set forth above, Applicant respectfully submits claim 1 defines patentable subject matter. Claims 5, 8, 16, 17 and 21 define patentable subject

matter for at least reasons similar to claim 1. Claims 2-4, 6-7, 10-15, 18-20 depend from claims 1, 5, 8 and 17, respectively, and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Withdrawal of the rejection of claims 1-8 and 10-21 under §103 is respectfully requested.

Statement of the Substance of the Interview

Applicant sincerely acknowledges the courtesies extended by Examiners Henry and Browne to Applicant's representative, Carl Wesolowski, during an April 21, 2005 personal interview. The substance of the personal interview is incorporated in the following remarks.

During the interview, claims 1-21 and 23-25 were argued to be allowable over Yeh in combination with Weidner and/or Atkinson, and Young and Parrish. Applicant respectfully submits the combined references would not result in at least features of a method including adjusting the set throttle rate using the controlling device according to the detected remaining battery capacity and combinations thereof as recited in claim 1. The outstanding rejection of the pending claims was argued to be in error on at least these grounds, however, no agreement was reached to this point. Applicant respectfully submits that independent claims are amended to highlight such features.

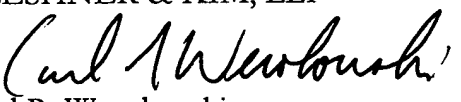
No exhibit was presented or demonstration conducted during the interview.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Carl R. Wesolowski, at the telephone number listed below. Favorable consideration and prompt allowance are earnestly solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



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